

## INTERNATIONAL SEARCH REPORT

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| International Application No<br>PCT/EP2004/052388 |
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| A. CLASSIFICATION OF SUBJECT MATTER<br>IPC 7 A61K31/18 A61K31/426 A61K31/421 A61P31/14 |
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| According to International Patent Classification (IPC) or to both national classification and IPC |
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| B. FIELDS SEARCHED |
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| Minimum documentation searched (classification system followed by classification symbols)<br>IPC 7 A61K |
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| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched |
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| Electronic data base consulted during the international search (name of data base and, where practical, search terms used) |
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| EPO-Internal, WPI Data, PAJ, EMBASE, BIOSIS, CHEM ABS Data |
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| C. DOCUMENTS CONSIDERED TO BE RELEVANT |
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| Category ° | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No |
|------------|--|----------------------|
| A          | US 6 514 953 B1 (ARMITAGE IAN GORDON ET AL) 4 February 2003 (2003-02-04)<br>column 5, paragraph 2<br>* claims *              | 1-14                 |
| A          | WO 03/064416 A (GHIRO ELISE ;BAILEY MURRAY D (CA); LLINAS-BRUNET MONTSE (CA); BOEH) 7 August 2003 (2003-08-07)<br>* claims * | 1-14                 |
| A          | US 2003/050229 A1 (LACOLLA PAULO ET AL) 13 March 2003 (2003-03-13)<br>the whole document                                     | 1-14                 |

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| <input checked="" type="checkbox"/> Further documents are listed in the continuation of box C |
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| <input checked="" type="checkbox"/> Patent family members are listed in annex |
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° Special categories of cited documents :

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| Date of the actual completion of the international search |
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| Date of mailing of the international search report |
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| European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040, Tx 31 651 epo nl,<br>Fax (+31-70) 340-3016 |
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| Collura, A |
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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/052388

| C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT |  |                       |
|--|--|-----------------------|
| Category   | Citation of document, with indication, where appropriate, of the relevant passages   | Relevant to claim No. |
| A  | JOHANSSON ANJA ET AL: "Acyl sulfonamides as potent protease inhibitors of the hepatitis C virus full-length NS3 (protease-helicase/NTPase): A comparative study of different C-terminals." BIOORGANIC AND MEDICINAL CHEMISTRY, vol. 11, no. 12, 12 June 2003 (2003-06-12), pages 2551-2568, XP002272318<br>ISSN: 0968-0896 (ISSN print)<br>* compounds 45a,45b,46a,46b *   | 1-14                  |
| A  | WO 95/06030 A (MUELLER RICHARD A ;VAZQUEZ MICHAEL L (US); MONSANTO CO (US); SEARL) 2 March 1995 (1995-03-02)<br>cited in the application<br>examples 17A,17B,18C,19B,20C,21C<br>page 240 - page 244  | 1-14                  |
| Y  | DATABASE MEDLINE 'Online!<br>US NATIONAL LIBRARY OF MEDICINE (NLM),<br>BETHESDA, MD, US;<br>1 April 2002 (2002-04-01),<br>PALMON RON ET AL: "Lack of hepatotoxicity associated with nonnucleoside reverse transcriptase inhibitors."<br>XP002319202<br>Database accession no. NLM11917237<br>abstract<br>& JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES (1999) 1 APR 2002,<br>vol. 29, no. 4, 1 April 2002 (2002-04-01),<br>pages 340-345,<br>ISSN: 1525-4135 | 15,16                 |
| Y  | WO 03/053435 A (TIBOTEC PHARMACEUTICALS LTD; VENDEVILLE, SANDRINE, MARIE, HELENE; VERS) 3 July 2003 (2003-07-03)<br>cited in the application<br>page 31  | 15,16                 |
| P,Y  | DATABASE MEDLINE 'Online!<br>US NATIONAL LIBRARY OF MEDICINE (NLM),<br>BETHESDA, MD, US;<br>September 2003 (2003-09),<br>ROCKSTROH JÜRGEN KURT: "Management of hepatitis B and C in HIV co-infected patients."<br>XP002319203<br>Database accession no. NLM14562859<br>abstract<br>& JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES (1999) SEP 2003,<br>vol. 34 Suppl 1, September 2003 (2003-09),<br>pages S59-S65,<br>ISSN: 1525-4135                         | 15,16                 |

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/EP2004/052388

| Patent document cited in search report | Publication date | Patent family member(s)  |  | Publication date   |
|--|------------------|--|--|--|
| US 6514953                             | B1 04-02-2003    | AT 229964 T<br>AU 766056 B2<br>AU 5037999 A<br>BG 105253 A<br>BR 9912156 A<br>CA 2337857 A1<br>DE 69904600 D1<br>DE 69904600 T2<br>DK 1098898 T3<br>EA 3191 B1<br>EE 200100038 A<br>EP 1098898 A1<br>HK 1034261 A1<br>HR 20010046 A1<br>HU 0103432 A2<br>JP 3437553 B2<br>JP 2003521447 T<br>NO 20010282 A<br>NZ 509291 A<br>SI 1098898 T1<br>SK 762001 A3<br>CN 1324363 T<br>WO 0004033 A1<br>EP 1240903 A2<br>ES 2189450 T3<br>ID 28070 A<br>PL 345620 A1<br>PT 1098898 T<br>TR 200100111 T2<br>US 2003100537 A1<br>US 2003096795 A1<br>ZA 200100417 A |  | 15-01-2003<br>09-10-2003<br>07-02-2000<br>31-12-2001<br>10-04-2001<br>27-01-2000<br>30-01-2003<br>13-11-2003<br>07-04-2003<br>27-02-2003<br>17-06-2002<br>16-05-2001<br>25-07-2003<br>28-02-2002<br>29-04-2002<br>18-08-2003<br>15-07-2003<br>07-03-2001<br>30-05-2003<br>31-08-2003<br>08-10-2001<br>28-11-2001<br>27-01-2000<br>18-09-2002<br>01-07-2003<br>03-05-2001<br>02-01-2002<br>30-04-2003<br>21-02-2002<br>29-05-2003<br>22-05-2003<br>27-02-2002 |
| WO 03064416                            | A 07-08-2003     | CA 2369970 A1<br>BR 0307517 A<br>WO 03064416 A1<br>CA 2474031 A1<br>EP 1474423 A1<br>US 2003191067 A1<br>US 2003186895 A1  |  | 01-08-2003<br>28-12-2004<br>07-08-2003<br>07-08-2003<br>10-11-2004<br>09-10-2003<br>02-10-2003   |
| US 2003050229                          | A1 13-03-2003    | US 2004097461 A1<br>US 2004101535 A1<br>AU 7490601 A<br>BR 0111127 A<br>CA 2409613 A1<br>CN 1443191 T<br>CZ 20024149 A3<br>EP 1292603 A2<br>JP 2004533401 T<br>NO 20025627 A<br>WO 0190121 A2<br>ZA 200210101 A  |  | 20-05-2004<br>27-05-2004<br>03-12-2001<br>24-06-2003<br>29-11-2001<br>17-09-2003<br>17-09-2003<br>19-03-2003<br>04-11-2004<br>06-01-2003<br>29-11-2001<br>14-06-2004   |
| WO 9506030                             | A 02-03-1995     | US 5843946 A<br>US 6060476 A<br>AT 174587 T<br>AU 7669794 A  |  | 01-12-1998<br>09-05-2000<br>15-01-1999<br>21-03-1995   |

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International Application No

PCT/EP2004/052388

| Patent document cited in search report | Publication date |            | Patent family member(s) | Publication date |
|--|------------------|------------|-------------------------|------------------|
| WO 9506030                             | A                |            | DE 69415326 D1          | 28-01-1999       |
|  |                  |            | DE 69415326 T2          | 02-06-1999       |
|  |                  |            | DK 715618 T3            | 23-08-1999       |
|  |                  |            | EP 0715618 A1           | 12-06-1996       |
|  |                  |            | ES 2127938 T3           | 01-05-1999       |
|  |                  |            | GR 3029378 T3           | 28-05-1999       |
|  |                  |            | WO 9506030 A1           | 02-03-1995       |
|  |                  |            | US 2003191319 A1        | 09-10-2003       |
|  |                  |            | US 6248775 B1           | 19-06-2001       |
|  |                  |            | US 5830897 A            | 03-11-1998       |
|  |                  |            | US 6172082 B1           | 09-01-2001       |
|  |                  |            | US 5786483 A            | 28-07-1998       |
|  |                  |            | US 6335460 B1           | 01-01-2002       |
|  |                  |            | US 6472407 B1           | 29-10-2002       |
|  |                  |            | US 6534493 B1           | 18-03-2003       |
|  |                  |            | US 2002052399 A1        | 02-05-2002       |
|  |                  |            | US 5744481 A            | 28-04-1998       |
|  |                  |            | US 2004044047 A1        | 04-03-2004       |
|  |                  |            | US 5968942 A            | 19-10-1999       |
|  |                  |            | US 6500832 B1           | 31-12-2002       |
|  |                  |            | US 2004229922 A1        | 18-11-2004       |
| WO 03053435                            | A                | 03-07-2003 | AU 2002361235 A1        | 09-07-2003       |
|  |                  |            | BR 0215260 A            | 07-12-2004       |
|  |                  |            | CA 2470964 A1           | 03-07-2003       |
|  |                  |            | WO 03053435 A1          | 03-07-2003       |
|  |                  |            | EP 1463502 A1           | 06-10-2004       |

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